

AC577

5 TO 500 MHz TO-8 CASCADABLE AMPLIFIER

Typical Values	AC577
High Gain	+16.5 dB
Low Noise Figure	4.0 dB
High Output Level	+16.5 dBm
High Third Order I.P.	+30 dBm
Wide Power Supply Range	+8 to +15 Volts
High Performance Thin Film	
Standard Size TO-8 Package	

SPECIFICATIONS*

Parameter	Typical	Guaranteed	
		0 to 50 °C	-55 to +85 °C
Frequency (Min.)	3-600 MHz	5-500 MHz	5-500 MHz
Small Signal Gain (Min.)	16.5 dB	16.0 dB	15.0 dB
Gain Flatness (Max.)	< ±0.3 dB	±0.5 dB	±0.9 dB
Noise Figure (Max.)	4.0 dB	5.5 dB	6.0 dB
SWR (Max.)	Input < 1.3:1 Output < 1.3:1	1.7:1	2.0:1
Power Output (Min.) @ 1dB comp.	+16.5 dBm	+15.0 dBm	+14.5 dBm
Reverse Isolation	20.0 dB	—	—
DC Current (Max.)	48 mA	53 mA	55 mA

* Measured in a 50-ohm system at +15 Vdc unless otherwise specified.

INTERMODULATION PERFORMANCE

Typical @ 25 °C	AC577
Second Order Harmonic Intercept Point	+49 dBm
Second Order Two Tone Intercept Point	+43 dBm
Third Order Two Tone Intercept Point	+30 dBm

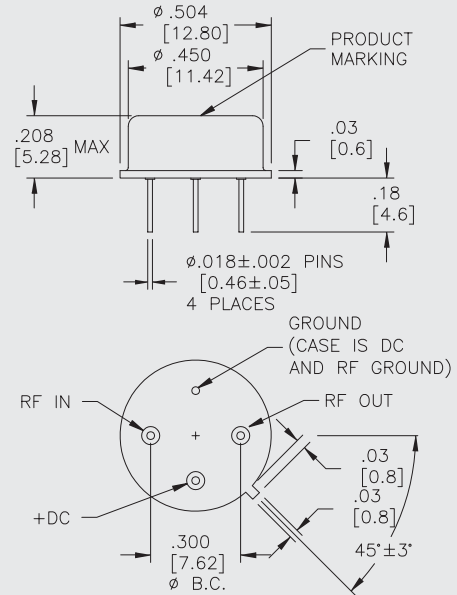
ABSOLUTE MAXIMUM RATINGS

Storage Temperature	-62 to +125 °C
Maximum Case Temperature	+125 °C
Maximum DC Voltage	+17 Volts
Maximum Continuous RF Input Power	+13 dBm
Maximum Short Term Input Power (1 Minute Max.)	50 Milliwatts
Maximum Peak Power (3 μsec Max.)	0.5 Watt
Burn-in Temperature	+100 °C
Thermal Resistance ¹ (θ _{jc})	+55 °C/Watt
Junction Temperature Rise Above Case (T _{jc})	+43.9 °C

¹Thermal resistance is based on total power dissipation.

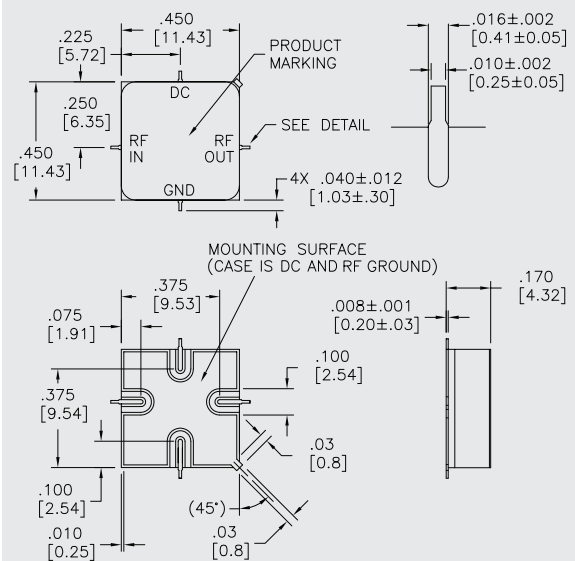
AC577

TO-8 Package for Amplifiers



AS577

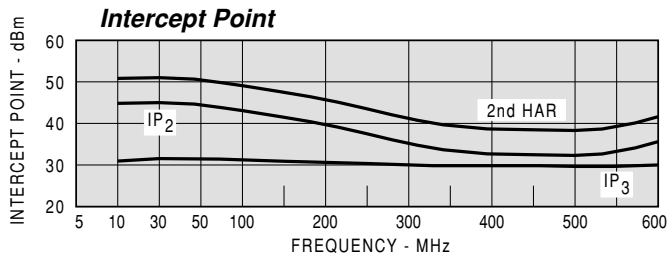
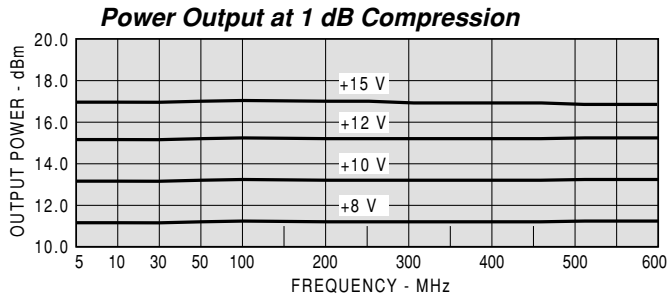
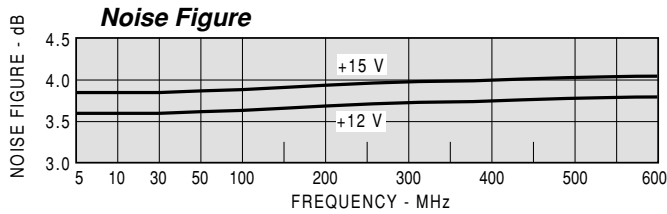
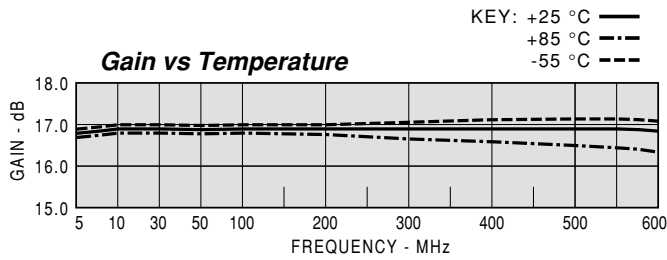
SMT0-8 Package for Amplifiers



DIMENSIONS ARE IN INCHES [MILLIMETERS]

TYPICAL PERFORMANCE

TYPICAL AUTOMATIC TEST DATA



Model: AC577				Vcc=+15V			Icc=47.94	
FREQ	SWR IN	SWR OUT	GAIN DB	GROUP DELAY NSEC	REV/ISO DB			
2	1.41	1.33	16.5		-20.5			
5	1.20	1.18	16.6		-20.5			
10	1.17	1.15	16.6	2.556	-20.4			
50	1.16	1.12	16.6	0.871	-20.4			
100	1.16	1.11	16.6	0.705	-20.4			
200	1.14	1.08	16.5	0.667	-20.4			
300	1.18	1.05	16.5	0.678	-20.3			
400	1.24	1.10	16.6	0.698	-20.1			
500	1.29	1.25	16.7	0.730	-19.8			
600	1.27	1.54	16.7	0.787	-19.4			

Model: AC577				LINEAR S-PARAMETERS						Vcc=+15V		Icc=47.94	
FREQ.	S11		S21		S12		S22		MAG	ANG	MAG	ANG	
2	0.17	-111.0	6.72	-161.4	0.094	20.0	0.14	148.4					
5	0.09	-138.8	6.72	-174.0	0.095	7.0	0.08	156.0					
10	0.08	-155.1	6.74	-178.5	0.095	3.0	0.07	161.1					
50	0.08	-171.2	6.73	168.8	0.096	-5.0	0.06	162.4					
100	0.07	-170.0	6.74	156.2	0.096	-11.0	0.05	155.3					
200	0.07	-154.5	6.69	132.2	0.096	-22.0	0.04	140.6					
300	0.08	-135.6	6.72	107.7	0.097	-34.0	0.02	162.6					
400	0.11	-131.0	6.77	82.7	0.099	-46.0	0.05	-155.0					
500	0.13	-134.0	6.81	56.4	0.102	-59.0	0.11	-170.3					
600	0.12	-138.8	6.87	28.0	0.107	-74.0	0.21	162.1					
700	0.07	-115.2	6.82	-3.4	0.114	-91.0	0.35	129.5					
800	0.18	-58.7	6.52	-39.6	0.119	-112.0	0.51	90.8					

Model: AC577				Vcc=+12V			Icc=38.14	
FREQ	SWR IN	SWR OUT	GAIN DB	PHASE DEG	GROUP DELAY NSEC	REV/ISO DB		
2	1.30	1.22	16.4			-20.6		
5	1.11	1.09	16.4			-20.6		
10	1.07	1.06	16.4		2.502	-20.6		
50	1.06	1.03	16.4		0.911	-20.5		
100	1.10	1.03	16.4		0.741	-20.5		
200	1.20	1.04	16.3		0.720	-20.5		
300	1.31	1.12	16.3		0.719	-20.4		
400	1.40	1.24	16.2		0.728	-20.2		
500	1.43	1.31	16.2		0.763	-19.7		
600	1.34	2.01	16.1		0.802	-19.3		

Model: AC577				LINEAR S-PARAMETERS						Vcc=+12V		Icc=38.14	
FREQ.	S11		S21		S12		S22		MAG	ANG	MAG	ANG	
2	0.13	-92.6	6.61	-163.0	0.093	19.0	0.10	135.1					
5	0.05	-100.2	6.61	-174.5	0.094	7.0	0.04	136.4					
10	0.03	-109.1	6.62	-179.0	0.094	3.0	0.03	143.3					
50	0.03	-116.4	6.60	168.0	0.094	-5.0	0.02	162.3					
100	0.05	-111.4	6.61	154.7	0.094	-11.0	0.01	-177.0					
200	0.09	-108.7	6.54	129.1	0.094	-23.0	0.02	-118.8					
300	0.13	-115.7	6.51	103.1	0.096	-35.0	0.06	-118.0					
400	0.17	-126.4	6.49	76.7	0.098	-47.0	0.11	-137.3					
500	0.18	-136.6	6.46	48.9	0.103	-61.0	0.13	-133.0					
600	0.14	-140.9	6.40	19.0	0.109	-77.0	0.34	-153.4					
700	0.11	-104.5	6.24	-15.0	0.118	-96.0	0.46	142.8					
800	0.28	-76.2	5.63	-53.7	0.119	-121.0	0.62	85.3					